

JFP URBAN CONSULTANTS

SITE BASED STORMWATER MANAGEMENT PLAN

Proposed Development at
16 POOLE WAY, BUSHLAND BEACH
for
BHAVIN GANDHI





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M3306EA1_DA1_SBSMP – Revision A
 December 2025

JFP Urban Consultants Pty Ltd

Prepared by: D. Koch
 Approved by: H. Watson

Revision	Date	Details	Prepared By	Approved By	Signature
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Appendix C	– Catchment Plan



1. INTRODUCTION

JFP Urban Consultants Pty Ltd was commissioned by BHAVIN GANDHI to compile this *Site Based Stormwater Management Plan* (“SBSMP”) to support a commercial development application at 16 Poole Way Bushland Beach (“site”). Refer to **Appendix A** for proposed development layout.

1.1 PRE LODGEMENT MEETING MINUTES - STORMWATER

An extract from Townsville City Councils (TCC) Pre-lodgement Meeting Minutes on 20 August 2025 (PLM25/0158) is provided as follows, refer **Appendix B** for further details:

Engineering and Infrastructure

- *Stormwater - SWMP to be prepared in accordance with QUDM and demonstrate how the major and minor stormwater will be managed.*
- *Site area is less than 2500m² so stormwater quality management plan is not triggered.*

Response

- An Engineering Report undertaken for the site by Northern Consulting Engineers, 2021 identified that the site can be developed to a fraction impervious of 90% without requiring mitigation. An assessment of the proposed development indicates the site impervious area is less than 90%, hence no detention is required.
- Water Quality Treatment measures are not required by Council. It is proposed to install 3x Atlan Storm Sacks (or approved equivalent) to all inlets within the carparking area to provide a “best practices” water quality treatment solution for the site.

Overlays

- *Flood hazard Low and medium over the site will need to be addressed in the report. Councils new flood modelling while not in affect yet for the planning scheme triggers shows an improved flood situation.*

Response

- Proposed development finished surface levels are above the adjacent drainage channel 1% AEP flood levels (levels obtained from Council’s latest flood modelling) and generally achieve QUDM requirements. Based on this, a flood impact assessment is not warranted for the development.

2. SITE CHARACTERISTICS

2.1 LOCATION

The site is in the TCC local government area. The real property description is Lot 6 on SP333154 with site access from Lynwood Avenue and Poole Way. The site is bound by Poole Way to the east, Lynwood Avenue to the south, vacant land to the north and a drainage channel to the west. The site area is 2435m². Refer to **Figure 1**.



Figure 1 – Site Location (TCC Mapping)

2.2 LAND USE

The site is currently vacant and predominately pervious.

2.3 TOPOGRAPHY, DRAINAGE & FLOODING

The existing site topography generally falls from south-west to north-east at grades of around 2% (refer **Appendix C** for further detail). The surface levels range from approximately RL 9.5m AHD on the south-western boundary to approximately RL 8.0m AHD on the north-eastern boundary.

A drainage channel traverses the western boundary of the site (refer **Figure 2**). The site is generally above the 1%AEP flood inundation level (refer **Figure 3** and **Section 2.4** for further information).

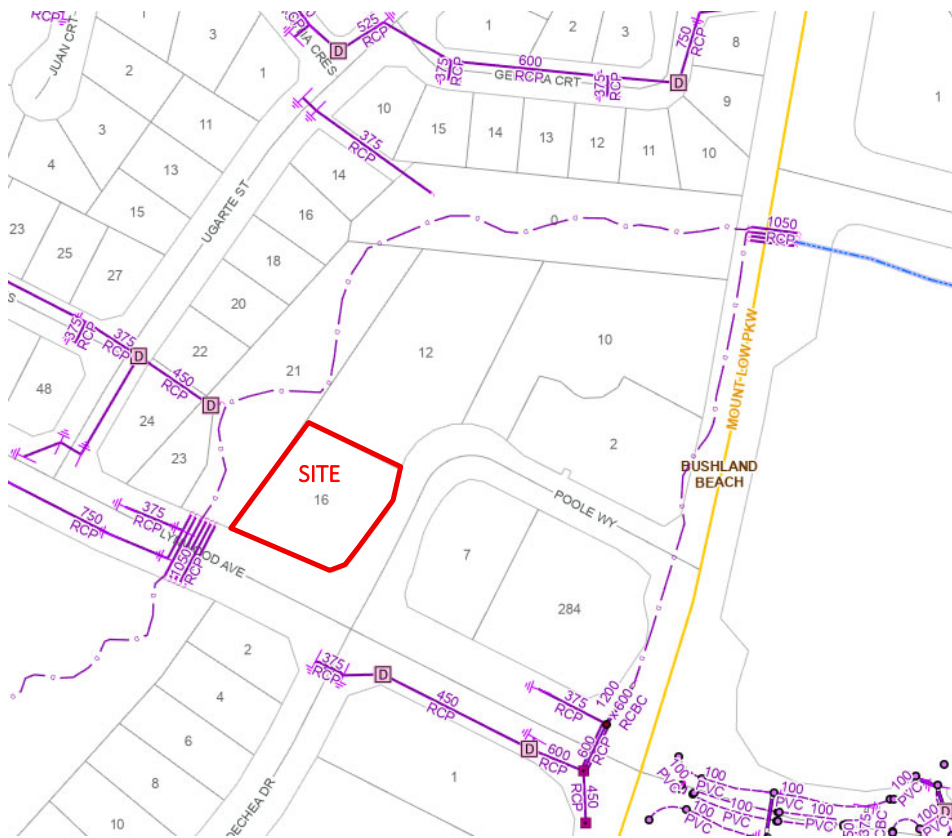


Figure 2 – Drainage- Extract form Council Mapping 2025

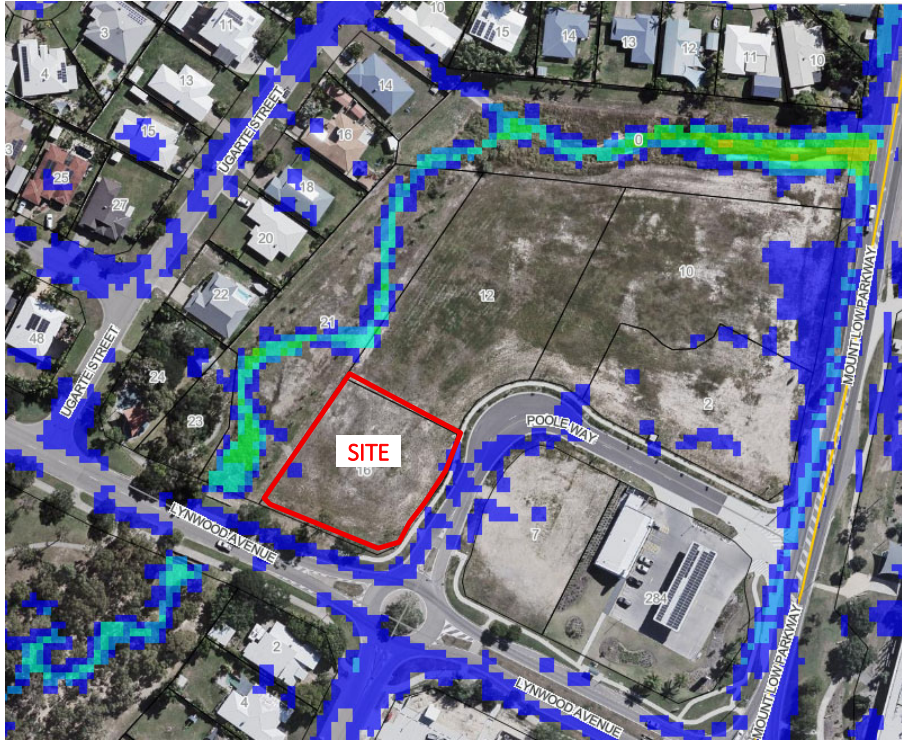


Figure 3 – 1%AEP Flood Inundation Areas – Extract from Council Mapping 2025 – New Flood Levels

2.4 PREVIOUS ENGINEERING REPORTING STORMWATER MITIGATION

The site was created as part of a previous reconfiguration of lot (RAL21/0061). Construction works and drainage channel reprofiling occurred as part of the RAL in accordance with an Engineering Report by Northern Consulting Engineers, 26 October 2021 (refer **Appendix C** for further details). The Council approved Engineering Report specifies the following:

- (the) “Flood impact assessment has demonstrated that the proposed development can occur in a manner that there are no adverse or material offsite impacts.”
- “With changes to impervious areas (analysis assumes development built-out to 90% impervious), the increase in runoff can be adequately mitigated with re-profiling of the western and northern drainage channel. Subsequently no further mitigation measures are required.” (NB all drainage channel reprofiling was completed as part of the previous RAL application for the site).
- “re-shaping of the proposed lots (within the site has been undertaken) to provide (1%AEP) flood immunity”



3. STORMWATER QUANTITY & FLOOD MANAGEMENT

3.1 LAWFUL POINTS OF DISCHARGE

The lawful points of discharge (“LPD”) for the site are:

- the existing drainage channel, discharge location at the north-western corner of the site, and
- kerb and channel, within Poole Way on the south-eastern boundary of the site.

3.2 PROPOSED SITE LEVELS & 1%AEP FLOOD LEVELS

Table 1 summarises proposed site levels, Finished Floor Levels and 1% AEP Flood Levels for the site (refer Appendix C for further details).

Table 1 - Finished Floor Levels and 1% AEP Flood Levels

	Level (mAHD)	1% AEP Level *	Freeboard (m)
Pt 1 - driveway	8.60	7.86	0.74
Pt 2 - building (FFL)	9.25	8.08	1.17
Pt 3 – building (FFL)	9.30	9.30	0.00**
Pt 4 - ground	9.20	9.30	0.10**
Pt 5 - carpark	9.33	8.40	0.93
Pt 6 – carpark/outlet	8.72	7.95	0.77

*Extracted from Councils Flood Information Portal (New flood levels)

**flood levels are taken from Lynwood Avenue kerb and channel, refer Figure 4 for further details. 1% AEP depths of flow are in the order of 80mm.

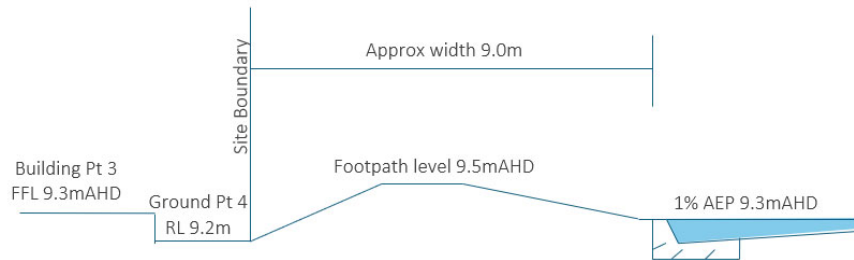
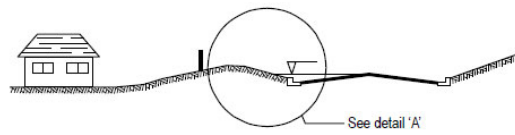
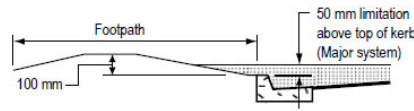


Figure 4- Cross section A-A adjacent to Point 3 and Point 4 (not to scale)

Figure 4 demonstrates compliance with QUDM requirements. Refer Figure 5 - Extract from QUDM (QUDM Figure 7.3.2 – Major storm flow design criteria) for further information.



Building below top of kerb and channel



Detail 'A'

Figure 5 - Extract from QUDM (QUDM Figure 7.3.2 – Major storm flow design criteria)

3.3 SITE IMPERVIOUS AREA

The fraction impervious for the site is calculated to be 86%.

Table 2- Site Impervious Area

	m ²	% of Total
Impervious Area	2084	86
Total Site Area	2435	-

In accordance with previous Council approved reporting by Northern Consulting Engineers 26 October 2021, where the fraction impervious is less than 90%, onsite is not required for the site.

3.4 FLOW RATES

Roof and surface stormwater flows from the south-eastern portion of the site, are to discharge to the kerb and channel within Poole Way. Remaining flows are to be conveyed via pipe and overland flow through the carpark to the north west corner of the site and discharge to the adjacent drainage channel (refer Catchment Plan **Appendix C**).

Table 3 – Preliminary Site Flow Rates

Discharge Location	Area ha	2yrARI m ³ /s	10yrARI m ³ /s	20yrARI m ³ /s	100yrARI m ³ /s
Poole Way	0.054	0.014	0.026	0.031	0.044
Western Drainage channel	0.190	0.049	0.093	0.111	0.154
Total	0.244	0.063	0.119	0.142	0.198



4. STORMWATER QUALITY MANAGEMENT

4.1 CONSTRUCTION PHASE STORMWATER QUALITY MANAGEMENT

4.1.1 INTRODUCTION

This section provides conceptual stormwater quality management strategies for construction phase of the proposed commercial development. No modelling has been undertaken at this stage. Erosion and Sediment Control (“ESC”) plans will be prepared during detailed design phase and implemented during construction.

4.1.2 POLLUTANTS

Typical pollutants generated during the construction phase of an urban development are shown in **Table 4**. These based on *Table C4.1 BCC’s Subdivision & Development Guidelines Part C Section 4.1.1* (2008).

Table 4 – Construction Phase Pollutants

Pollutant	Potential Source
Litter	Paper, construction packaging, food packaging, cement bags, off-cuts.
Sediment	Unprotected exposed soils and stockpiles during earthworks and building works.
Hydrocarbons	Fuel/oil spills, leaks from construction equipment, and temporary car park areas.
Toxic Materials	Cement Slurry, asphalt primer, solvents, cleaning agents, washwaters (eg. from tile works)
pH altering substances	Cement slurry, acid sulfate soils, and washwaters

4.1.3 WATER QUALITY OBJECTIVES

It is recommended that the amount of runoff crossing and leaving the site is kept to a minimum during the construction phase to restrict soil erosion and mobilisation of sediments and pollutants through and off the site. **Table 5** presents an extract from *Table A, Appendix 2* of the *State Planning Policy* (2017) objectives for construction phase stormwater quality management.

Table 5 – Construction Phase Water Quality Objectives

Issue	Desired Outcomes
Erosion Control	<ol style="list-style-type: none"> 1. Stage clearing and construction works to minimise the area of exposed soil at any one time. 2. Effectively cover or stabilise exposed soils prior to predicted rainfall. Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised using methods which will achieve effective short-term stabilisation.
Sediment Control	<ol style="list-style-type: none"> 1. Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk. All exposed areas greater than 2500m² must be provided with sediment controls which are designed, implemented, and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e., 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).



4.1.4 STORMWATER QUALITY MANAGEMENT STRATEGY

An ESC plan that is endorsed by an CPESC or a RPEQ will be prepared and implemented during construction phase. ESC measures may include, but not limited to, devices such as:

- Sediment basin/s,
- diversion drains,
- silt fences, and
- construction entry/exit pads.

4.1.5 MONITORING & MAINTENANCE

The general requirement of monitoring during the construction phase will be:

- Work activities to be restricted to designated construction areas.
- Earthworks and site clearing to be undertaken in accordance with the ESC plans prepared during detailed design phase.
- ESC devices to be constructed in accordance with the ESC plans prepared during detailed design phase.
- Inspect sediment fences and ESC structures/devices on a weekly basis as well as after any rain event exceeding 25mm in 24hrs.
- Stormwater discharges from the site are not to have any adverse effect on the downstream environment.
- Monitor and record of the performance of the drainage control devices including water quality testing where required.
- Any failure in the stormwater system to be immediately rectified to prevent uncontrolled discharge from the site.
- Any failure to the stormwater system causing damage to surroundings should implement immediate remedial work to the damaged area.

4.1.6 RESPONSIBILITY & REPORTING

- The contractor shall be responsible for monitoring the performance of all drainage control and ESC devices.
- Records of any failures to devices should be kept and reported to the Construction Manager.
- Regular inspections of the devices shall be reported to the Construction Manager.
- Inspections of the devices after heavy rainfall shall be reported to the Construction Manager.



4.2 OPERATIONAL PHASE STORMWATER QUALITY MANAGEMENT

4.2.1 STORMWATER QUALITY MANAGEMENT

In accordance with Pre-lodgement meeting minutes for the development (PLM25/0158) Water Quality Treatment measures are not required for the site.

It is proposed to install 3x Atlan Storm Sacks (or approved equivalent) to all inlets within the carparking area to provide a “best practices” water quality treatment solution for the site.



5. CONCLUSION & RECOMMENDATIONS

JFP Urban Consultants Pty Ltd have prepared this SBSMP for the proposed commercial development at 16 Poole Way, Bushland Beach. The outcomes of the analyses are as follows:

Stormwater Quantity and Flood Mitigation

The lawful points of discharge (“LPD”) for the site are:

- the existing drainage channel, discharge location at the north-western corner of the site, and
- kerb and channel, within Poole Way on the south-eastern boundary of the site.

Proposed surface levels and finished floor levels provide flood immunity from the adjacent drainage channel in accordance with QUDM requirements.

The site impervious area is 86%. Council approved engineering reporting (undertaken as part of a previous RAL for the site), specifies that on-site detention is not required where the site impervious area is less than 90%. No onsite detention is proposed.

Stormwater Quality

In accordance with Pre-lodgement meeting minutes for the site, Water Quality Treatment measures are not required. It is proposed to install 3x Atlan Storm Sacks (or approved equivalent) to all inlets within the carparking area to provide a “best practices” water quality treatment solution.



6. DISCLAIMER

This report has been prepared for the purpose and exclusive use of BHAVIN GANDHI as an investigation into the stormwater management issues related to the proposed development of the land described in the report. The information presented in this report is not to be used for any other purpose or by any other person or corporation.

JFP Urban Consultants Pty Ltd accepts no responsibility for any loss or damage suffered howsoever arising to any person or corporation who may use or rely on this report without further input and/or advice from JFP Urban Consultants Pty Ltd.

The investigations, calculations, analysis and recommendations presented in this report rely on information sourced from third parties. JFP Urban Consultants Pty Ltd accepts no responsibility for the accuracy of the information sourced from third parties.



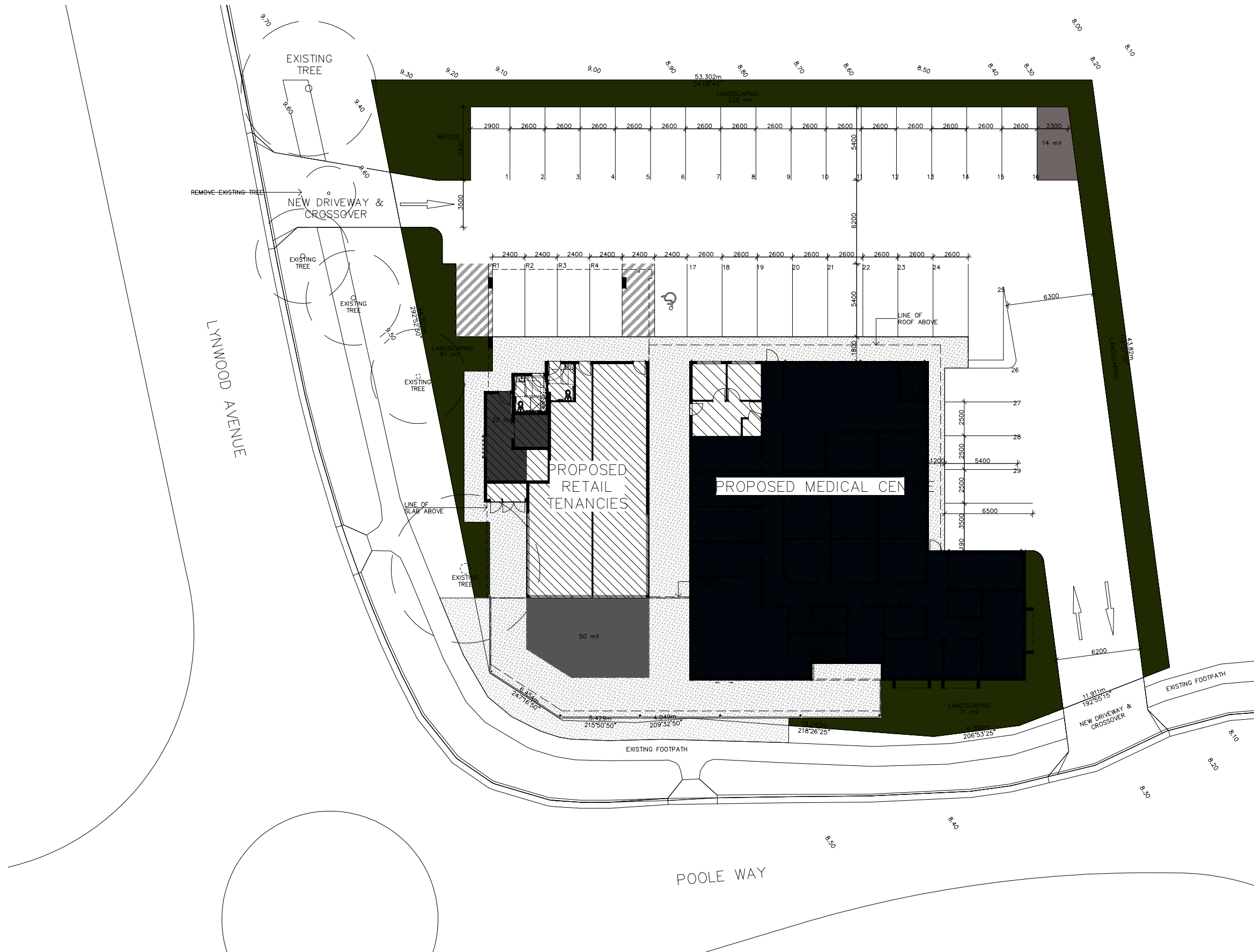
7. APPENDICES

- Appendix A – Site Layout
- Appendix B – Council Pre-lodgement Meeting Minutes
- Appendix C – Catchment Plan



APPENDIX A

SITE LAYOUT



01 SITE PLAN
1:150

PROPOSED MIXED USE DEVELOPMENT,
16 POOLE WAY, BUSHLAND BEACH

POOLE WAY 2 PTY LTD

DEVELOPMENT APPROVAL north
scale : 1:150 @A11: 300 @A3
issue :03 date 16-10-25

Blackburne Jackson Logo A74726CE.jpg
ARCHITECTURE | LANDSCAPE | INTERIOR | PROJECT MANAGEMENT

5819-DA02

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APPENDIX B

COUNCIL PRE-LODGEMENT MEETING MINUTES



PRE-LODGEMENT MEETING MINUTES

PO BOX 1268, Townsville
Queensland 4810

COUNCIL REFERENCE >> PLM25/0158 13 48 10
ASSESSMENT NO >> 11127016
LEGAL DESCRIPTION >> Lot 6 SP 333154 enquiries@townsville.qld.gov.au
PROPERTY ADDRESS >> 16 Poole Way BUSHLAND BEACH QLD 4818 townsville.qld.gov.au
PROPOSAL >> MCU ABN: 44 741 992 072

DATE >> 20 August 2025
TIME >> 2:00PM

ATTENDEES >>

Jayne Carter Senior Planner - Planning and Development
Ishor Gurung Coordinator Engineering - Planning and Development
Erin Beynon Planning Support Officer - Planning and Development

VIA MICROSOFT TEAMS/TELECONFERENCE

Timothy Balcombe
Haydn Watson

Description of the Proposal

- The proposal is for MCU - Medical Centre, Pathology, Food and Drink Outlet, and Mixed use residential upstairs,
- No architectural designs currently
- Near existing shopping and multiple daycare facilities
- Proposed awning that goes to property boundary

- Development proposal plans - Attached

Planning Scheme

The proposal is subject to assessment against the Townsville City Plan. The planning scheme can be viewed via the following link: [Current City Plan \(townsville.qld.gov.au\)](https://www.townsville.qld.gov.au/current-city-plan)

Furthermore, Townsville Maps can be viewed via the following link: [TownsvilleMAPS Mapping Service - Townsville City Council](#)

Meeting Discussion

Proposal Overview

Proposal is for a mixed-use development at 16 Pool Way, including a Medical centre, a Food and drink outlet (likely a daytime coffee shop), and residential units above. The site is in a Low-density residential zone near community facilities, childcare centres, and a shopping centre.

Planning Considerations

Application will be Impact assessable and subject to public notification. Some previous proposals in the area for non-residential uses in the LDR zone have received significant public feedback. Key planning concerns from the public generally include;

- compatibility with residential character,
- noise,
- hours of operation, and
- integration with the surrounding area.

A brief needs assessment should be included in the application material to demonstrate the Non-residential uses are compatible with local character and amenity; limited in scale and supporting the day-to-day needs of the local community; and not impacting on the role and function of the city's network of centres or more appropriately located in another zone.

Engineering and Infrastructure

- TIA - Provide Traffic Impact assessment. Refer SC6.4.5.2 (3) of city plan for impact level and requirement. A basic traffic impact analysis is recommended to assess vehicle movements and pedestrian safety.
- Driveway - Existing sewer MH and hydrant at the north east corner of the property. Maintain a minimum of 0.5m clearance with the proposed driveway.
- Parking - To be contained within the development premise.
- Stormwater - SWMP to be prepared in accordance with QUDM and demonstrate how the major and minor stormwater will be managed. Site area is lesser than 2500m² so stormwater quality management plan is not triggered.
- Water - Council water main available at both Lynwood Ave and Poole Wy. Provide simplified water network analysis.
- Water property connection - Per Council's mapping, there is no existing connection available to this property. This can be made via a connection application.
- Sewer - Council Sewer main available at Poole Wy. Provide simplified sewer network analysis.
- Sewer property connection Per Council's mapping, there is an existing sewer property connection available to this property.

Overlays

- Flood hazard Low and medium over the site will need to be addressed in the report. Councils [new flood modelling](#) while not in affect yet for the planning scheme triggers shows an improved flood situation
- Landslide hazard overlay - low hazard as per Council's map overlay. However, based on the ground contour, site is approximately at 3% grade. No geotechnical report required.
- Bushfire hazard area - Medium hazard. The overlay will be triggered and should be addressed in the application however as the site is clear the overlay will not constrain

the development. SPP Bushfire prone area mapping (which will soon supersede the overlay mapping as part of an upcoming amendment) also shows no hazard on the site.

Landscaping and Design

- Discussion included the importance of retaining existing trees.
- The layout should integrate with the streetscape and provide shade and visual appeal.
- Parking areas need to include shade trees

Planning Scheme Amendments

Upcoming changes to the planning scheme are expected to be adopted in October. These changes include changes to the purpose statements for all of the zones to match the purpose statements within the Planning Regulation, and are more accommodating of non-residential uses in low-density zones. Applicants are encouraged to reference these changes in their application.

Other Applicable Information

Upon lodgement of your development application, you will be required to pay assessment fees in accordance with Council's Planning Services Fees and Charges Schedule. For the most current schedule, please refer to: [Fees & Charges - Townsville City Council](#)

Furthermore, the development proposal will be subject to Infrastructure Charges. For a comprehensive review of Council's Infrastructure Charge Resolution, please view the following link: [Infrastructure Charges - Townsville City Council](#)

Meeting Closed >> 2:28pm

Note: This pre-lodgement advice has been prepared based on the information provided in the meeting. A full assessment of the proposal against the planning scheme has not been carried out and this advice may be subject to change at the time of lodgement of a formal development application. An application may be subject to requests for further information not identified in the pre-lodgement meeting following a full assessment.



APPENDIX C

CATCHMENT PLAN



LEGEND:

- SITE BOUNDARY - - - - -
- FLOW DIRECTION →
- STORMSACKS ■

CATCHMENT PLAN

16 POOLE WAY, BUSHLAND BEACH
BHAVIN GANDHI

JFOP
 URBAN CONSULTANTS

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